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Atkinson et al.

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(54) **EYEGLASSES STRUCTURES**

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Related U.S. Application Data

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G02C 5/06 (2006.01)
G02C 5/22 (2006.01)

(52) **U.S. Cl.**
CPC ***G02C 5/06*** (2013.01); ***G02C 5/2209*** (2013.01); *G02C 2200/08* (2013.01); *G02C 2200/10* (2013.01); *G02C 2200/16* (2013.01)

(58) **Field of Classification Search**
CPC G02C 5/02–5/10; G02C 5/14–5/20; G02C 5/22–5/229; G02C 2200/06; G02C 2200/16; G02C 5/2209; G02C 5/2218; G02C 5/2227; G02C 5/2236; G02C 5/2245; G02C 5/2254; G02C 5/2263; G02C 5/2272; G02C 5/2281
USPC 351/111–123, 124, 126, 129, 133, 140, 351/149, 150, 153; 16/228
See application file for complete search history.

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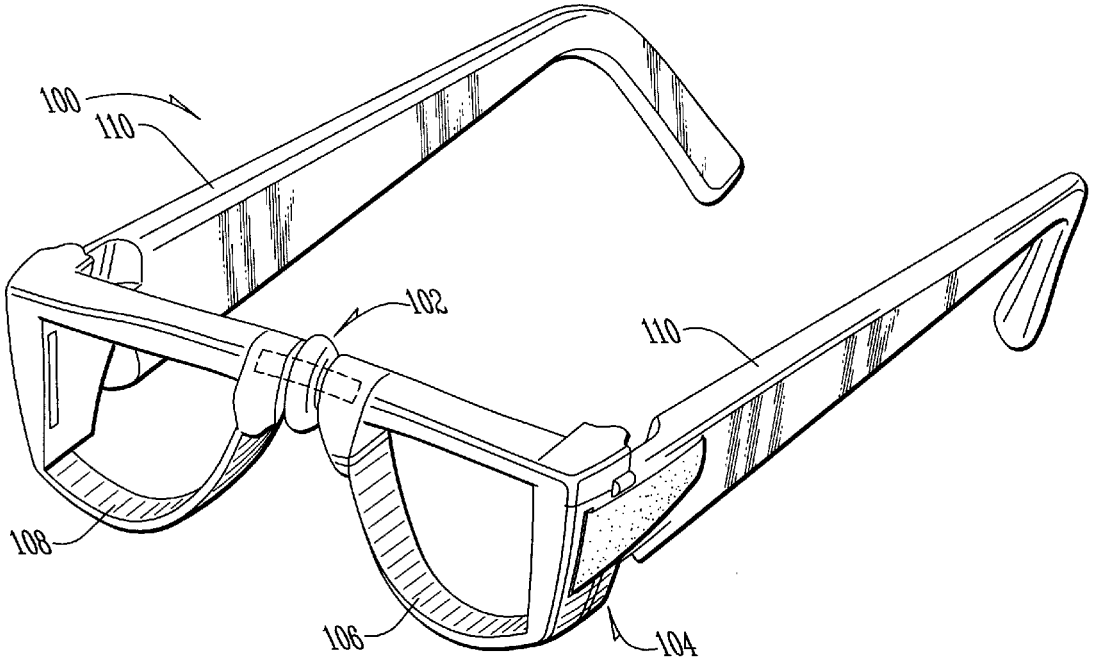
(57) **ABSTRACT**

The eyeglass frame is an improved eyeglass frame with dislocating joints. The dislocating joints prevent damage to the eyeglass frame when external forces are applied to the structure and allow for the frame to be disconnected, if so desired. The joints dislocate without completely separating from the other components of the eyeglass frame or becoming damaged, and the joints can be quickly reconnected without tools.

13 Claims, 15 Drawing Sheets



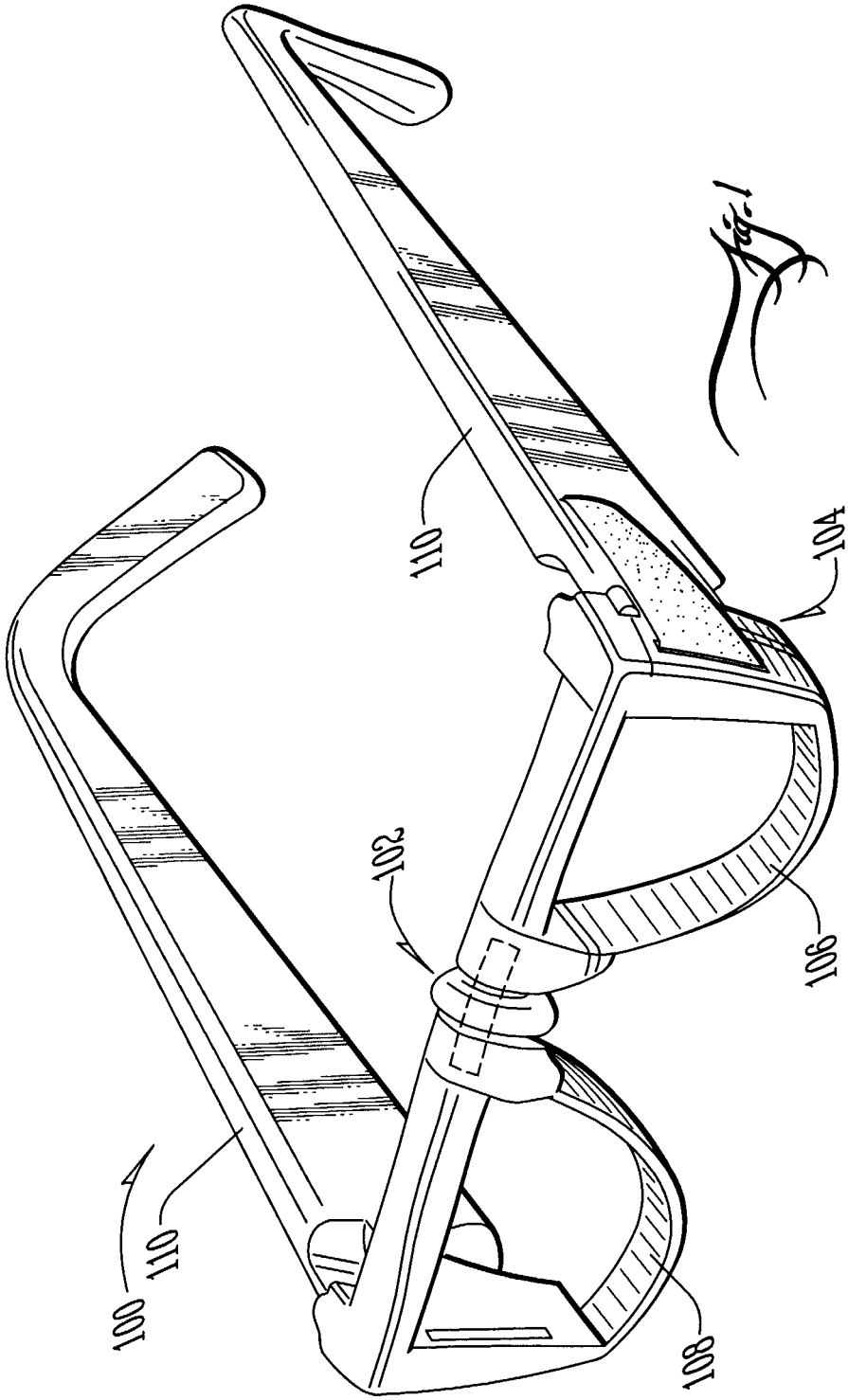


Fig. 1
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104
102
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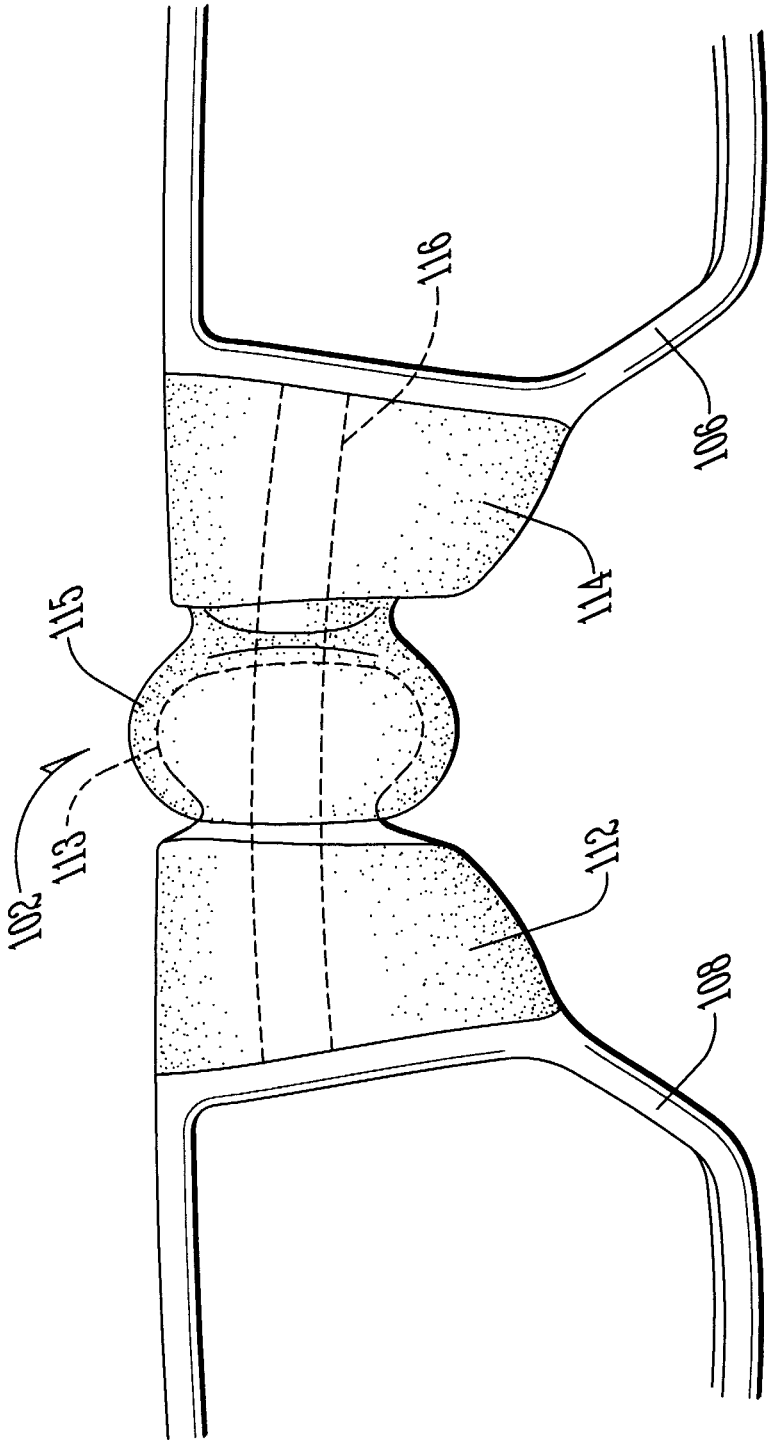

Fig. 2

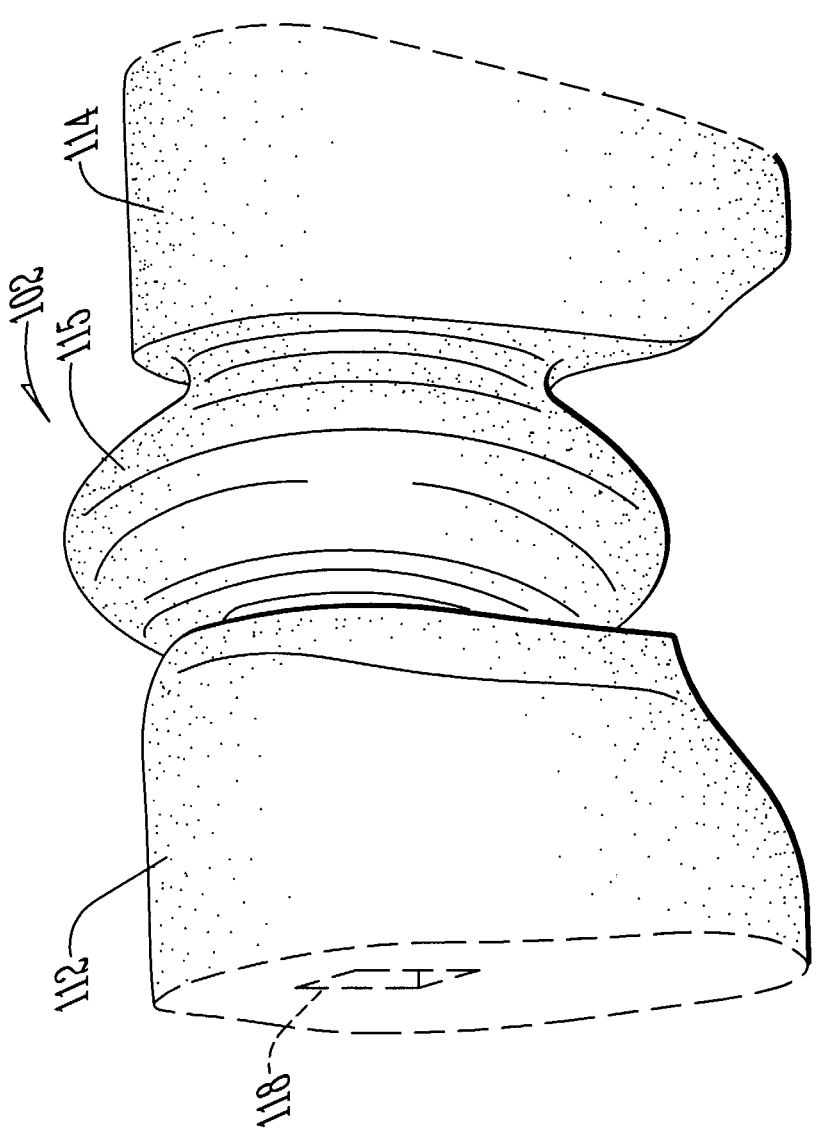

Fig. 3

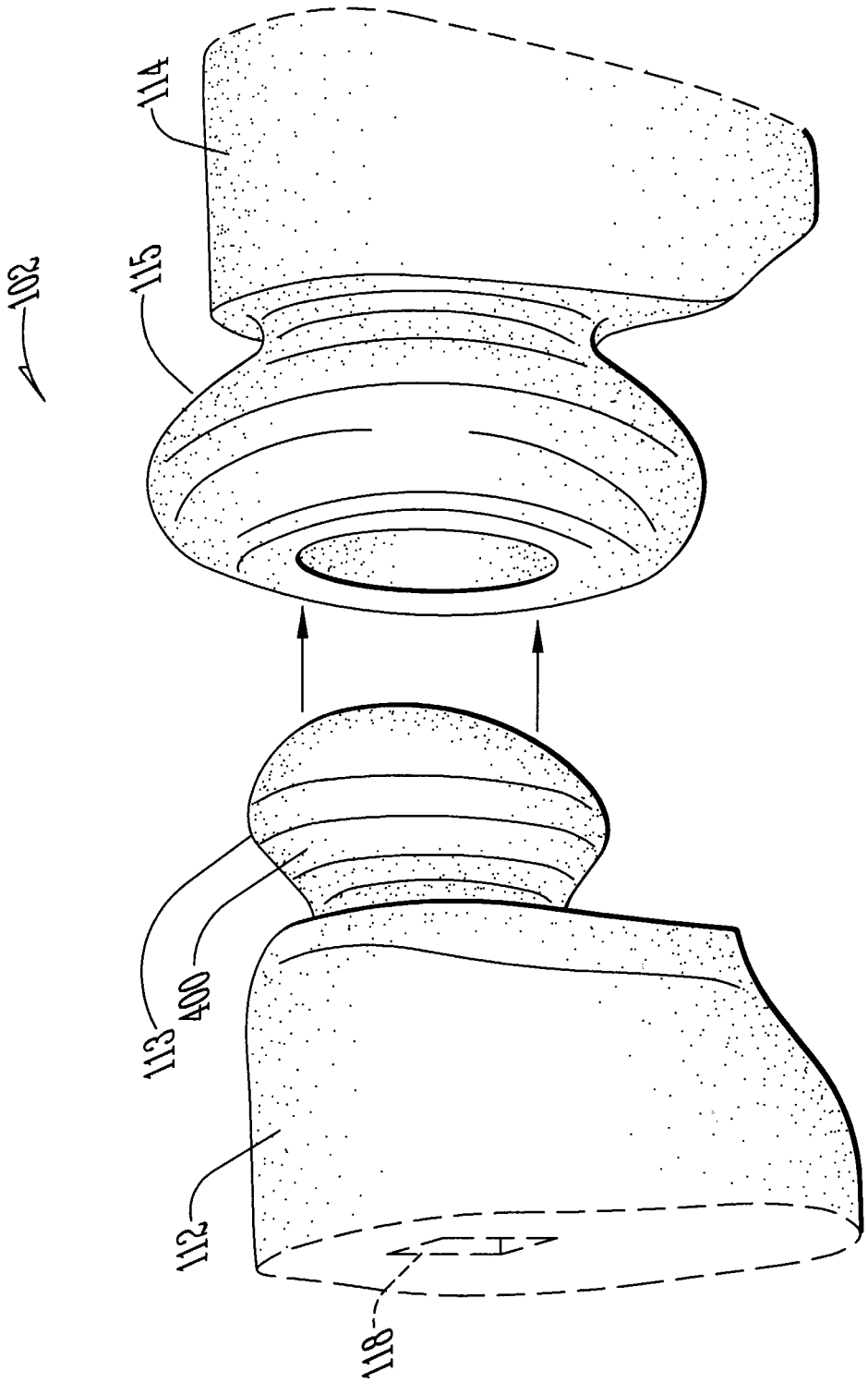

Fig. 4

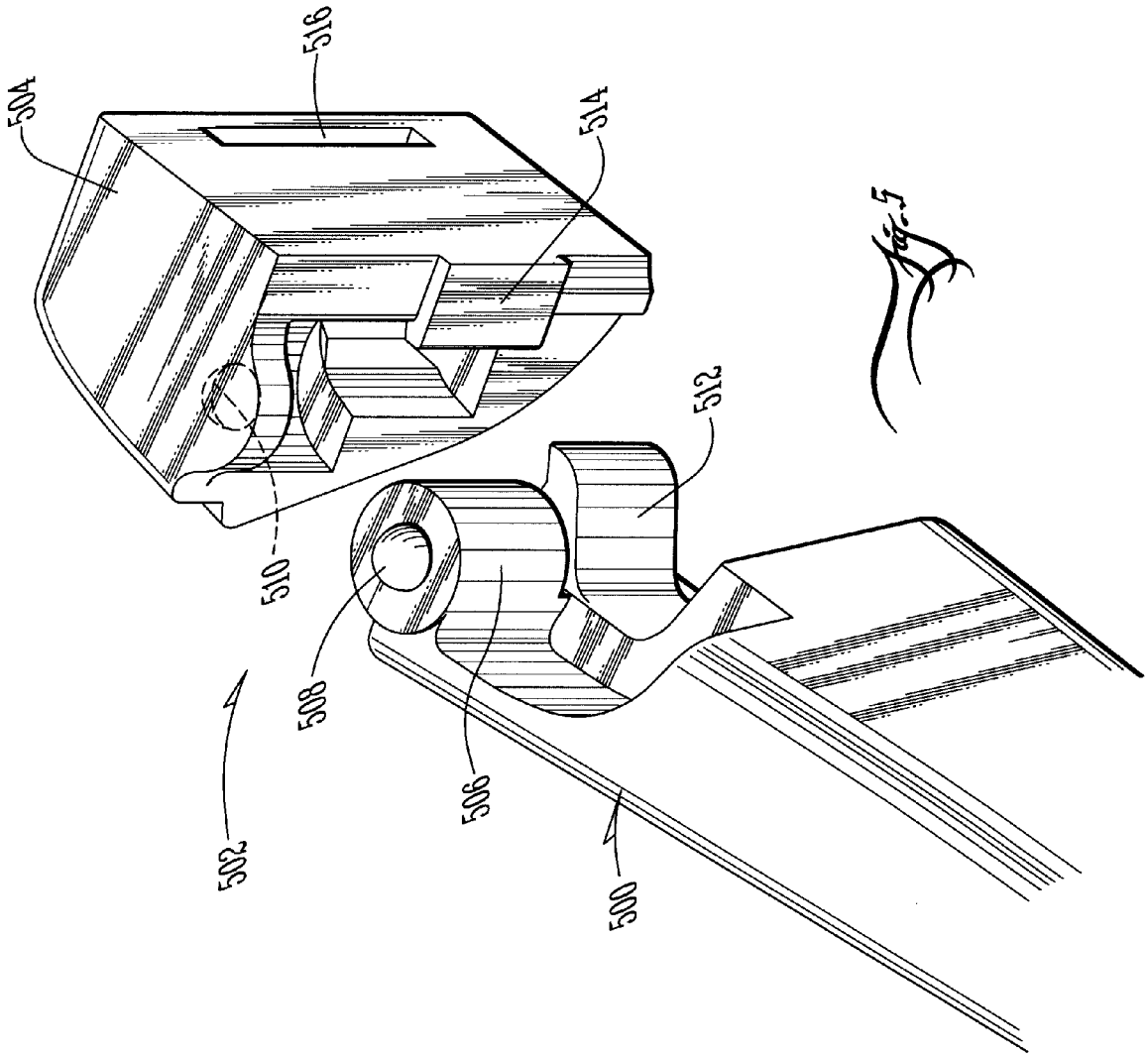

Fig. 5

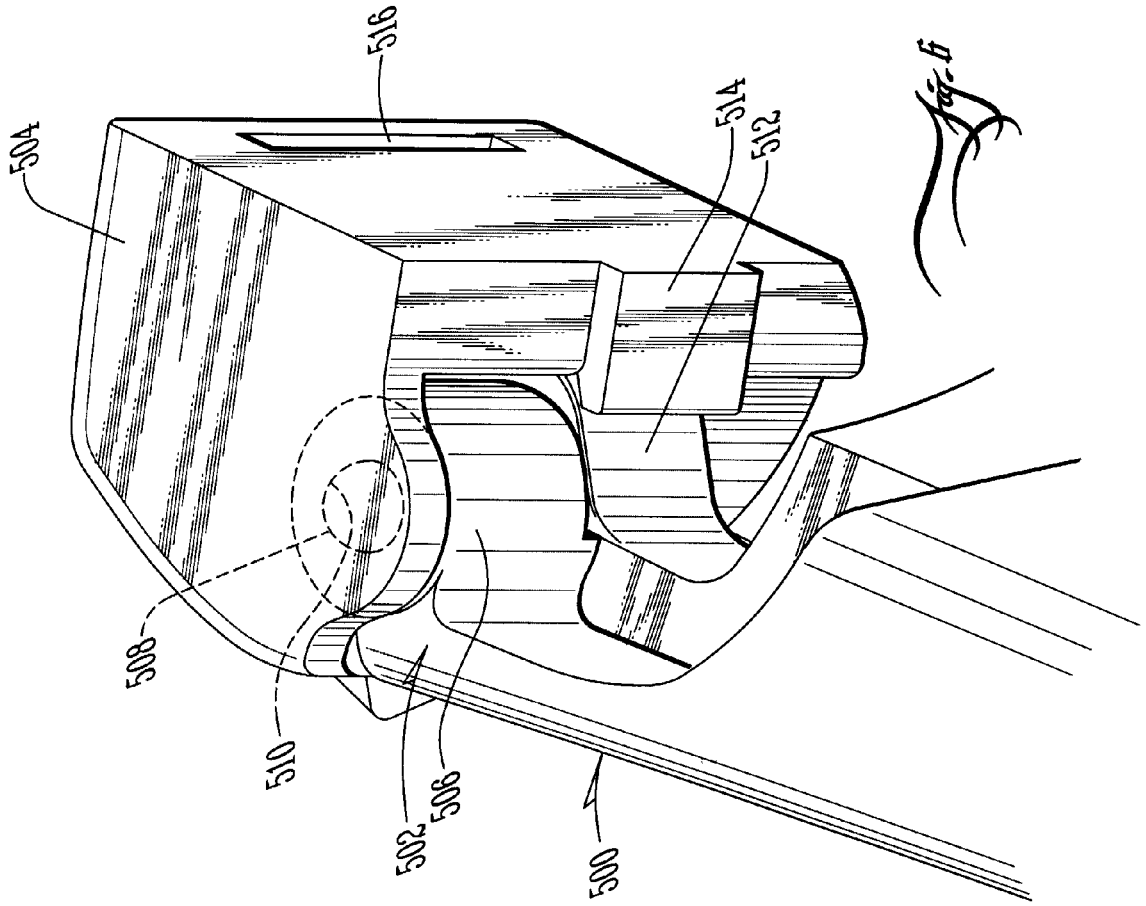

Fig. 6

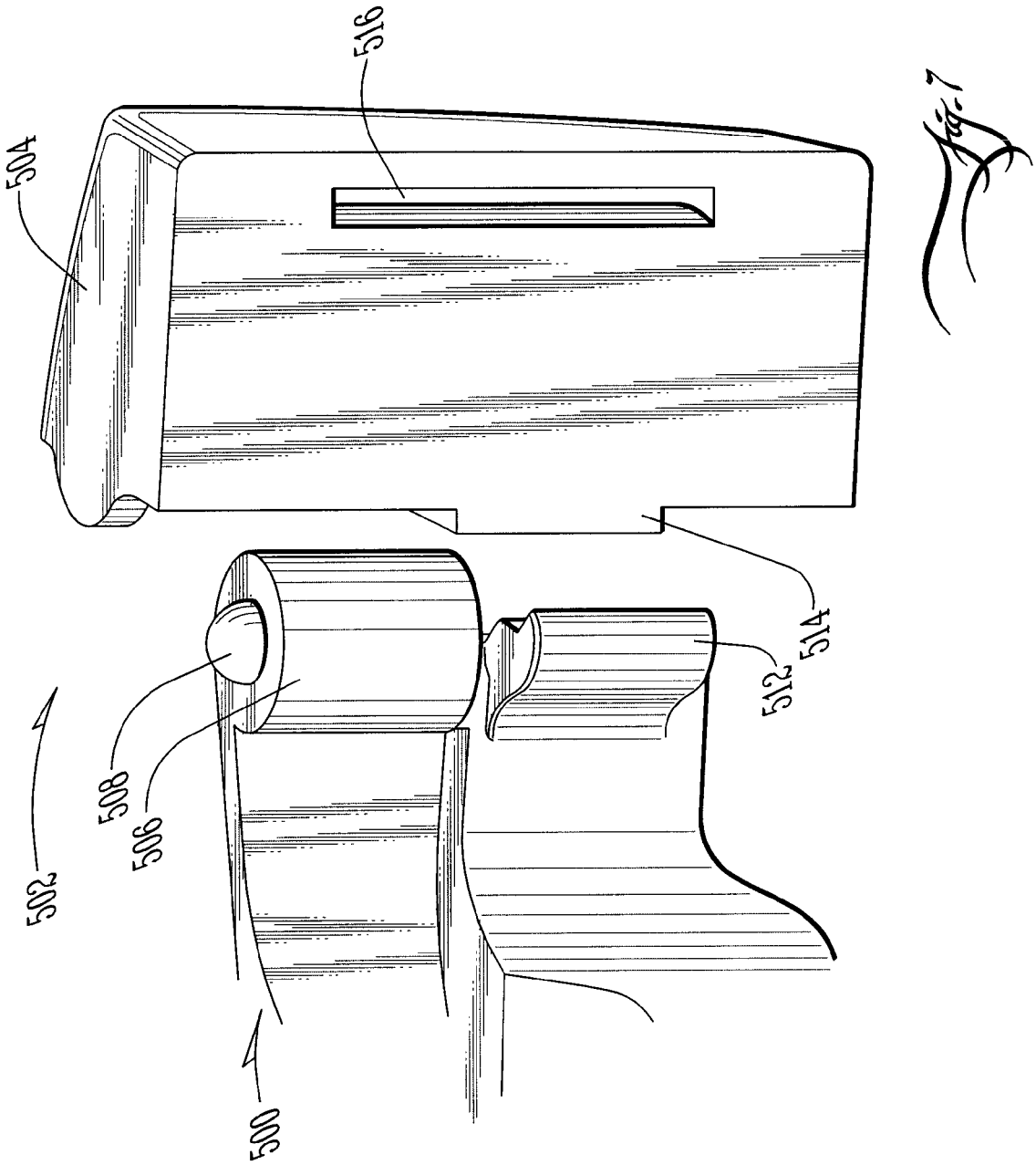

Fig. 7

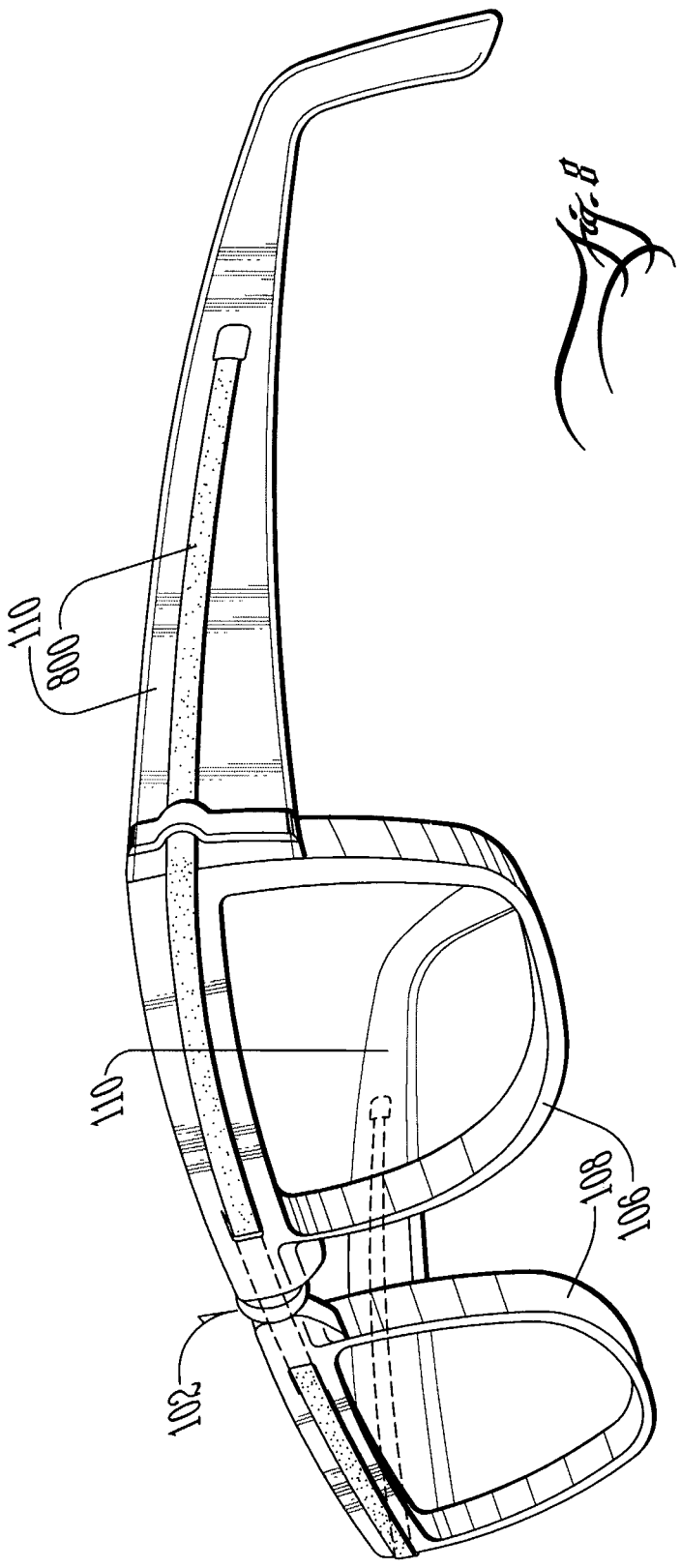

Fig. 8

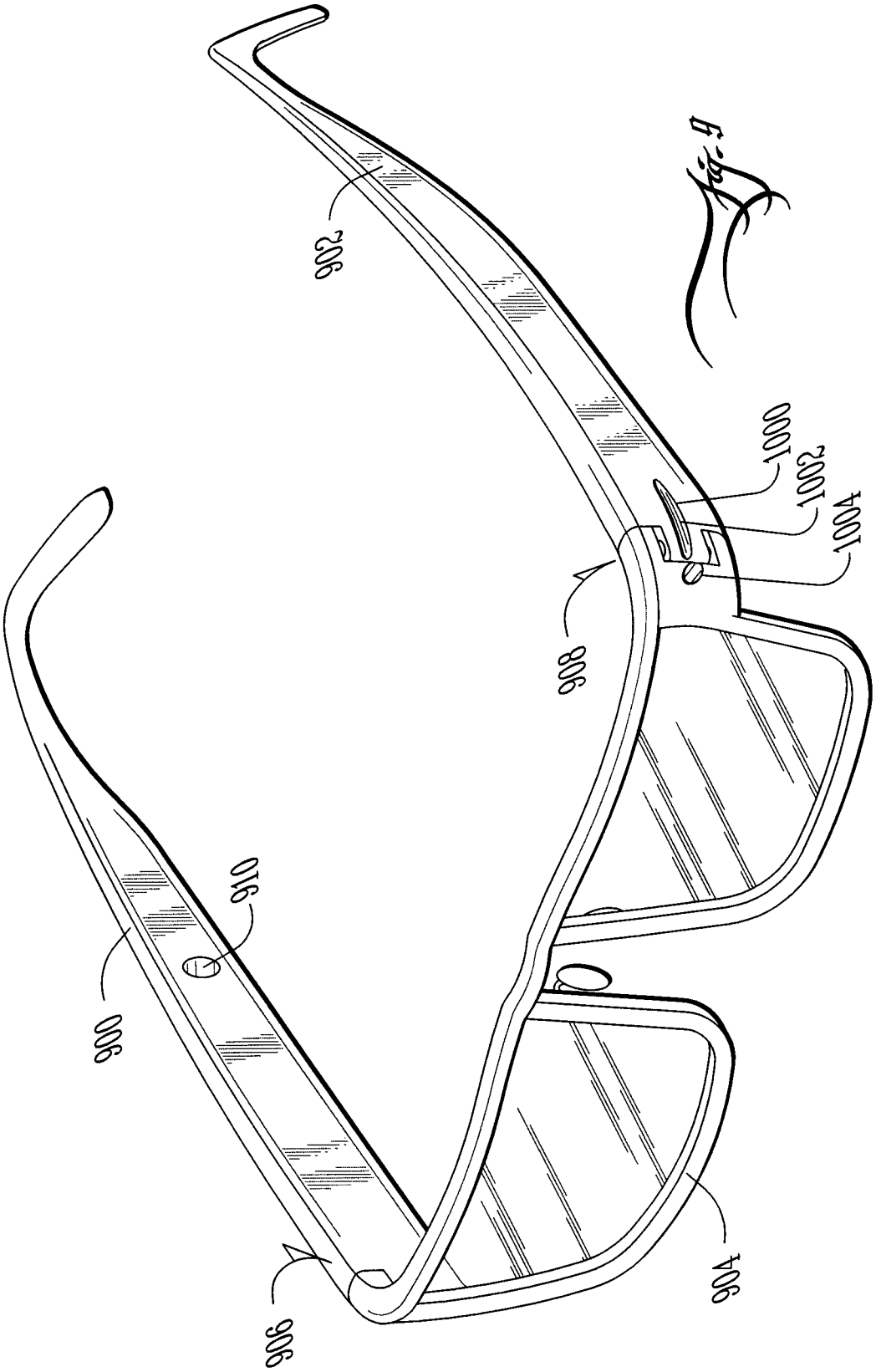

Fig. 9

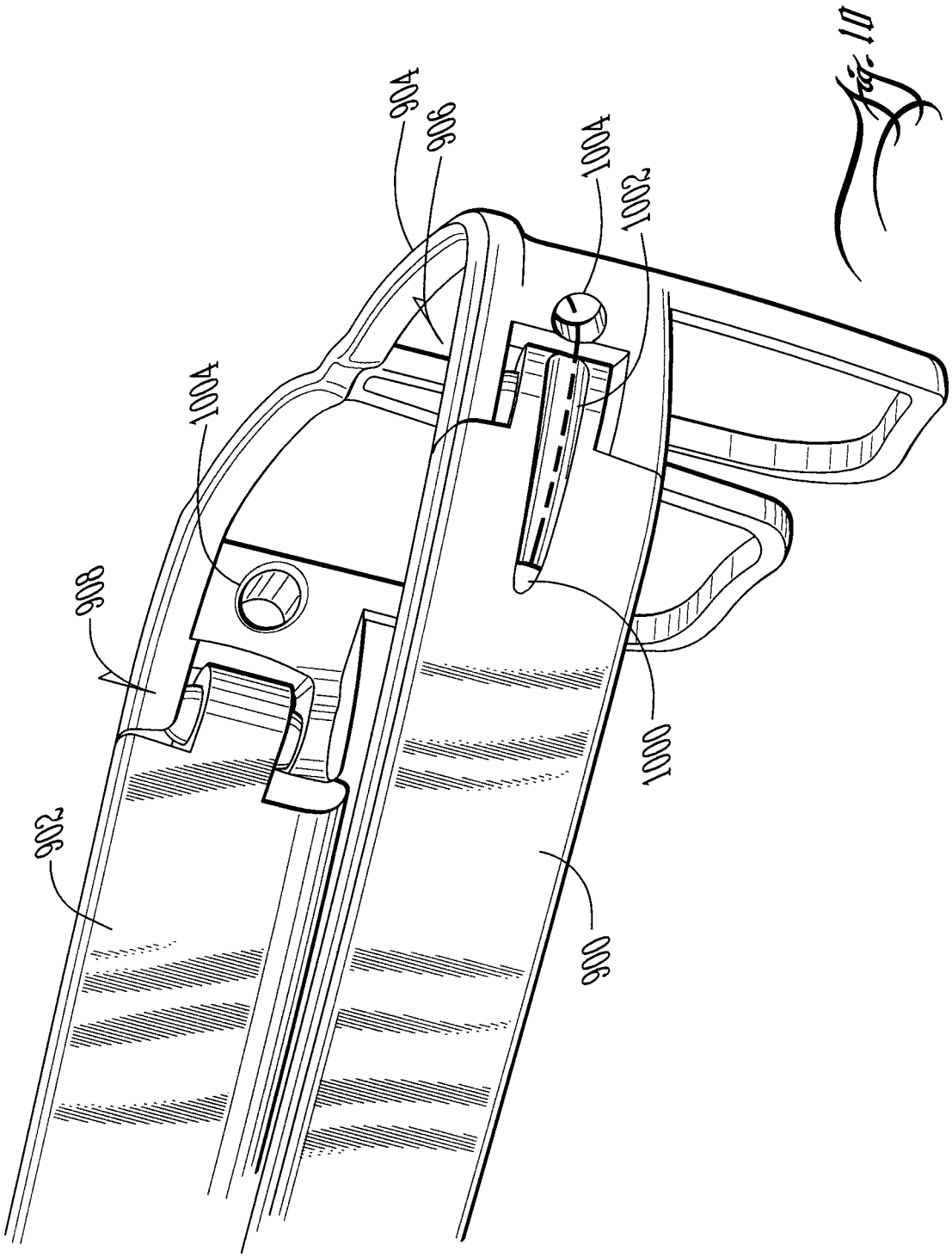

Fig. 10

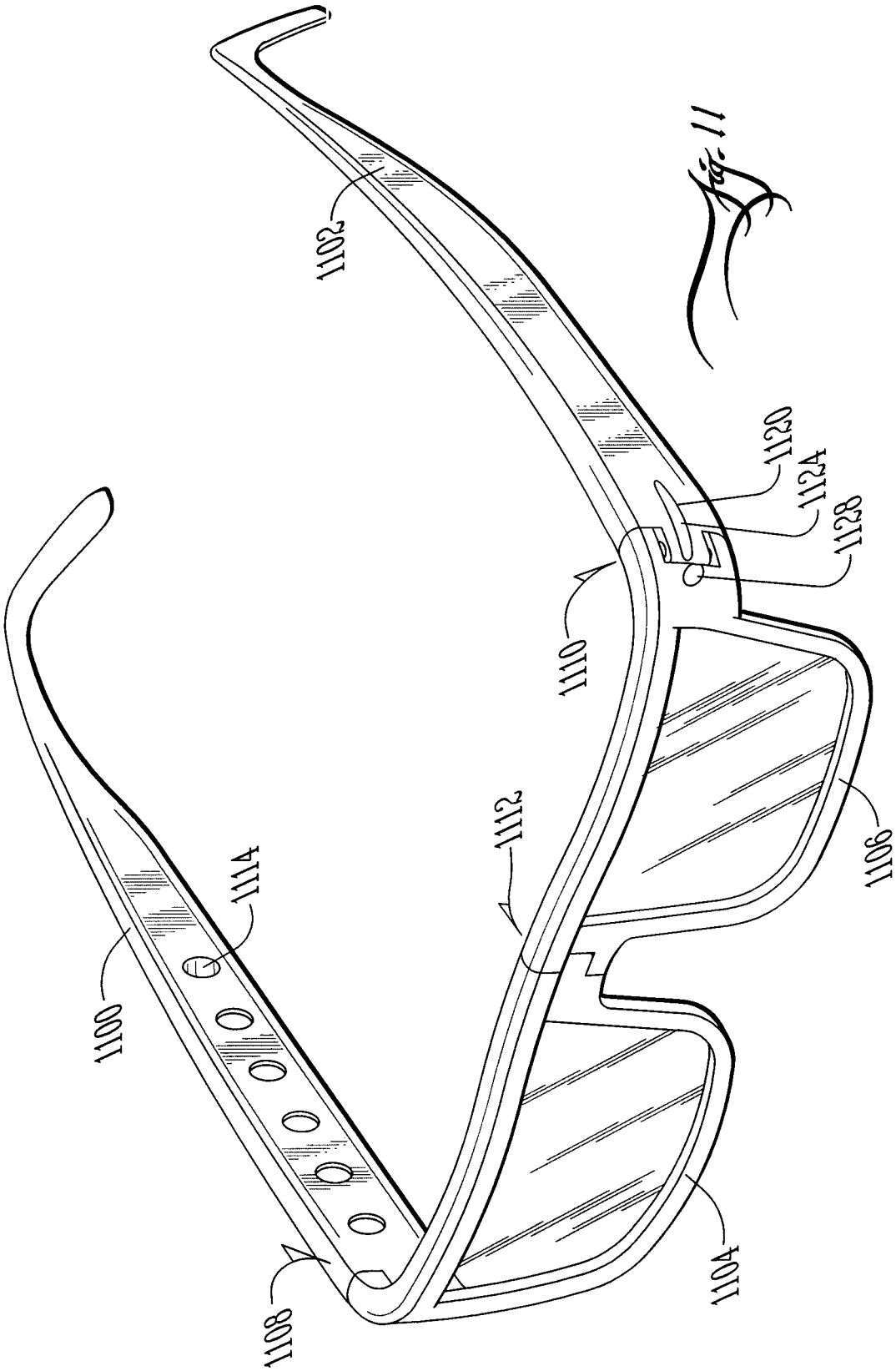

Fig. 11

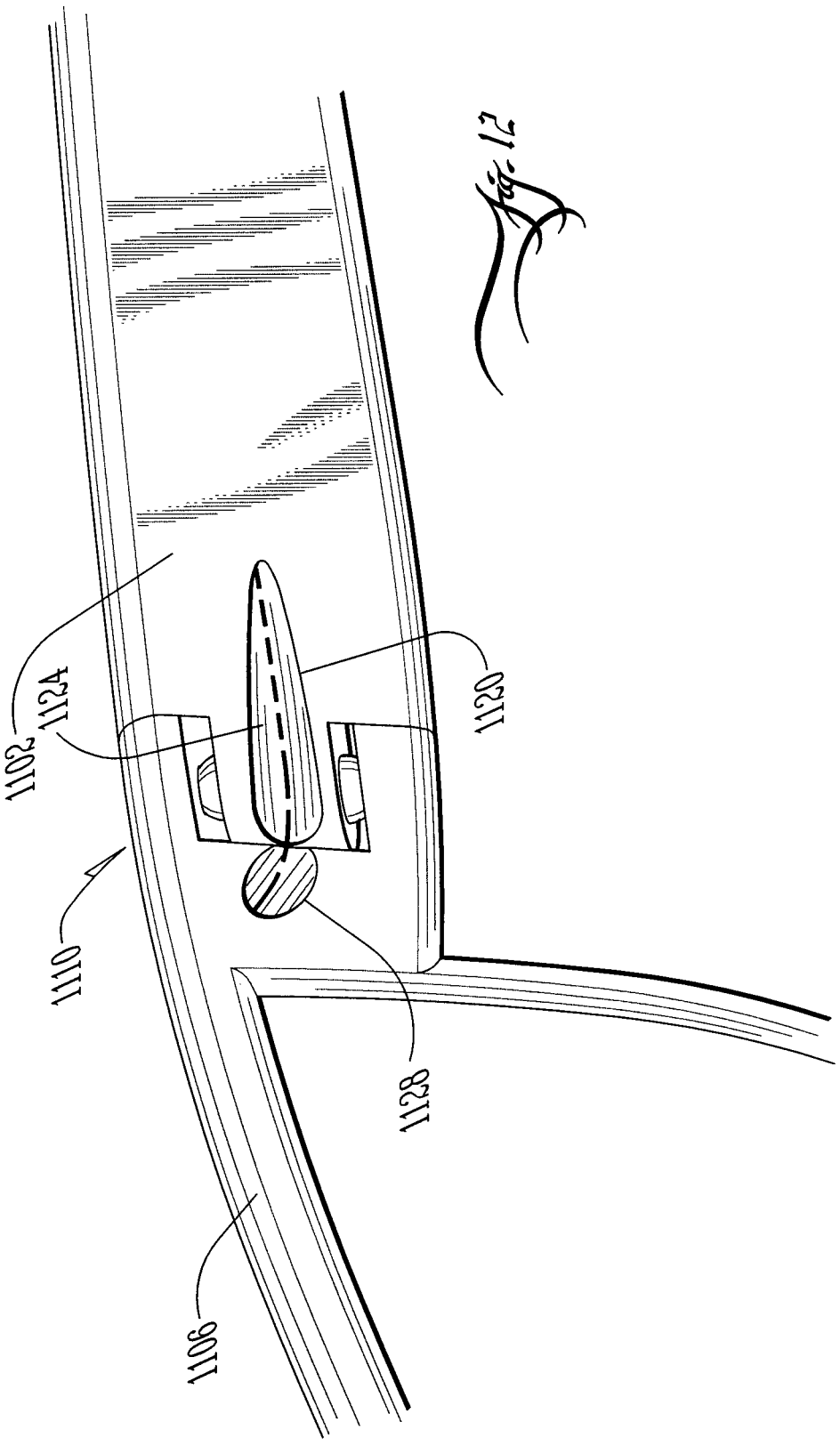

Fig. 12

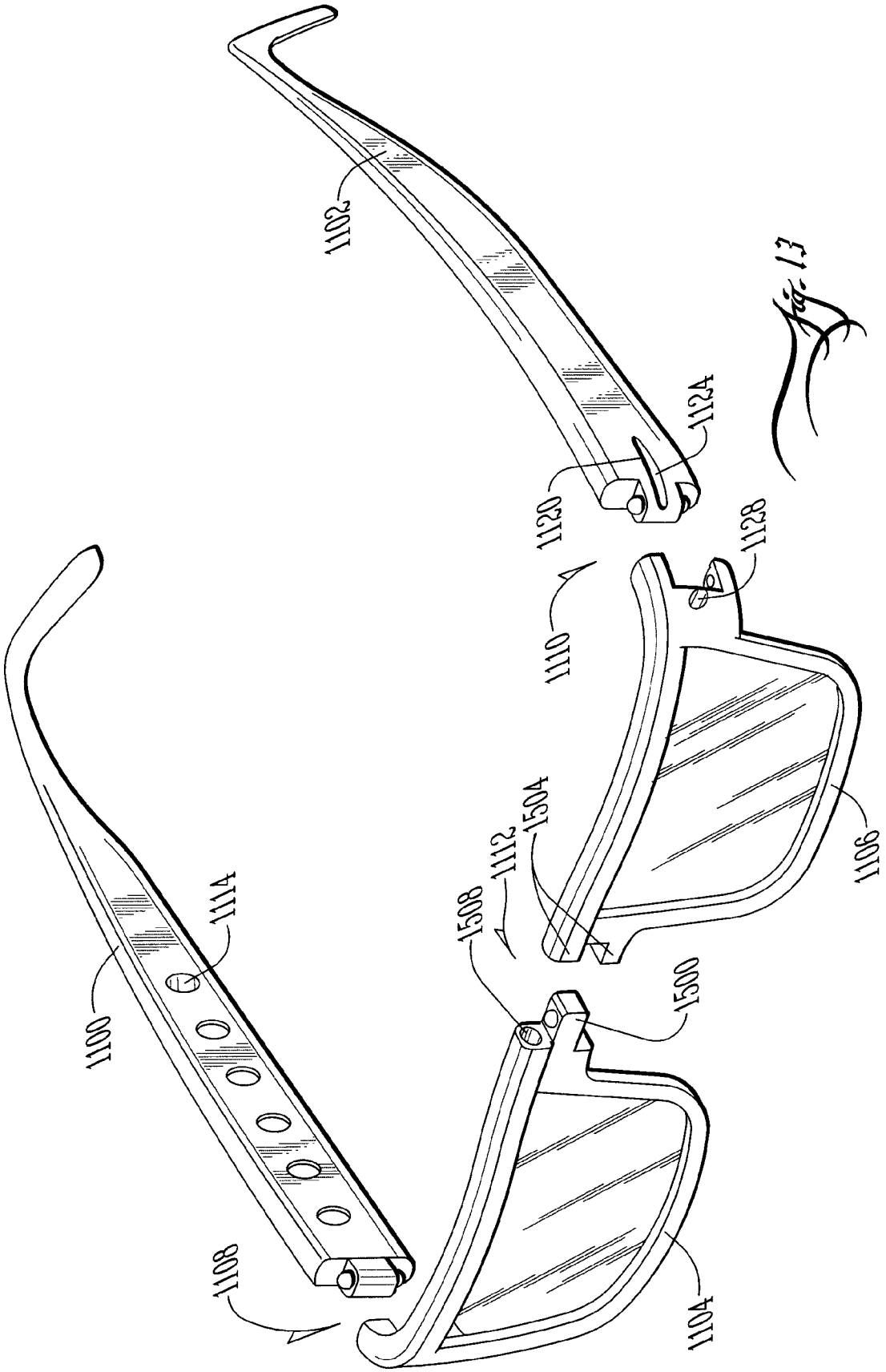
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Fig. 13

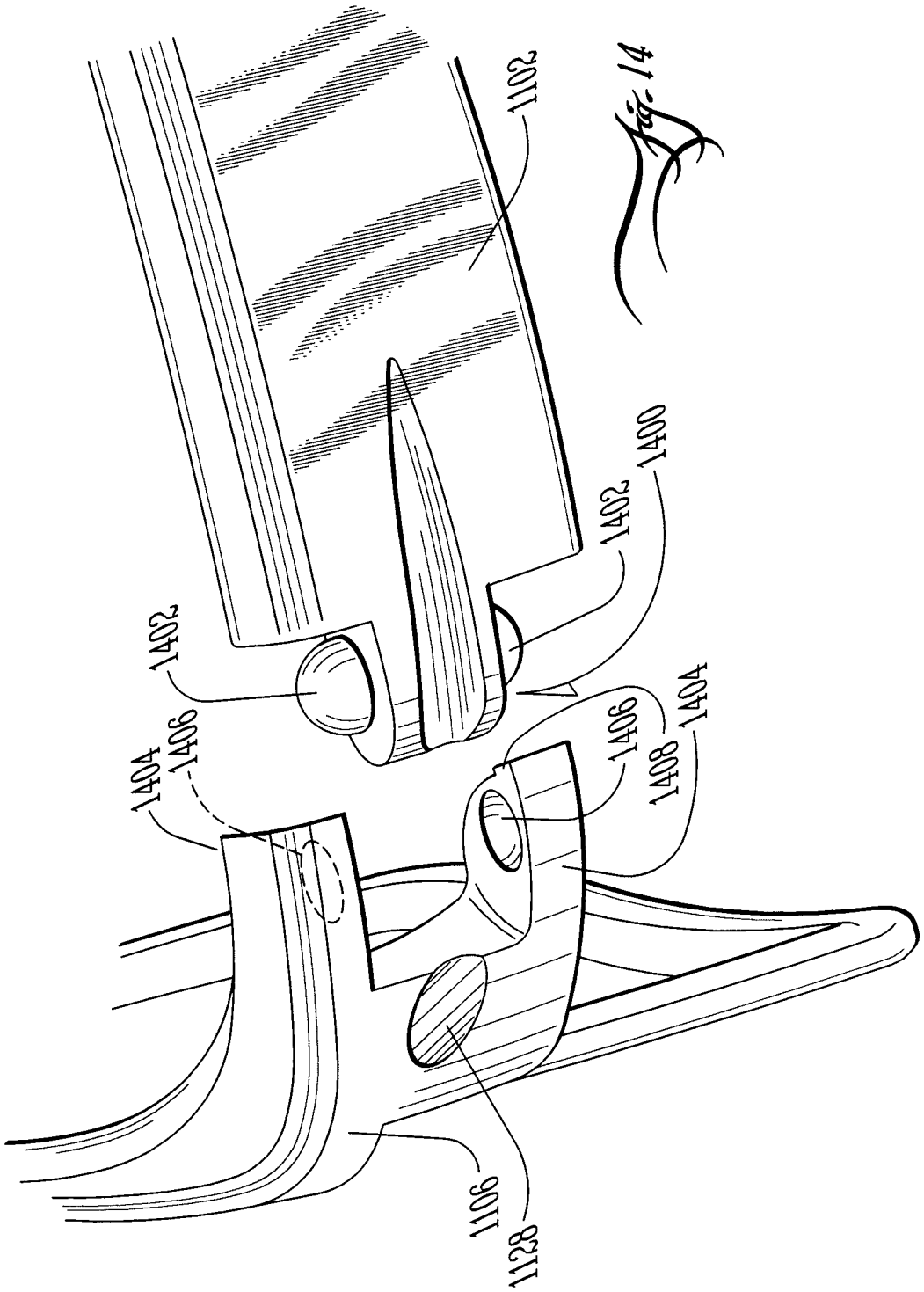
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Fig. 14

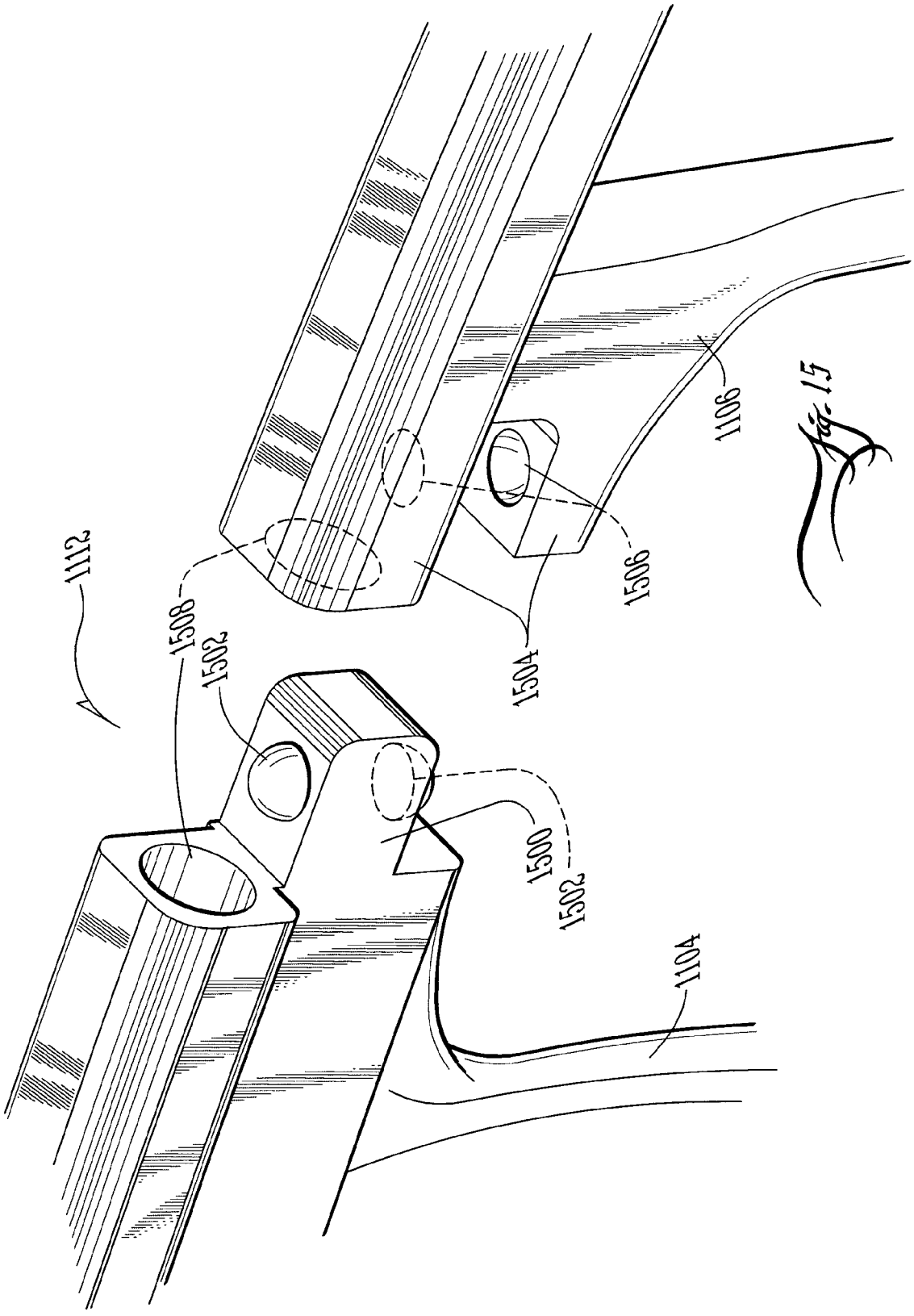

Fig. 15

EYEGLASSES STRUCTURES

CROSS-REFERENCE TO RELATED APPLICATIONS

This non-provisional application claims priority of U.S. Provisional Patent Application No. 61/607,297 filed on Mar. 6, 2012, which application is incorporated herein by reference.

BACKGROUND

Field of the Invention

The eyeglass frames disclosed herein relate generally to eyewear assemblies and methods for manufacturing eyewear assemblies. The eyeglass frames relate more specifically to eyewear with removable and replaceable components. The eyeglass frames also relate to eyewear with components that are flexibly connected to one another and are capable of disconnection at the temple or side arm joint and the nose bridge area of the eyeglass frame.

SUMMARY OF THE INVENTION

In an embodiment of the invention, it comprises a frame for eyeglasses comprising a left rim member and a right rim member; a nose bridge assembly connecting the left rim member to the right rim member; a left temple arm and a right temple arm; a left and a right dislocating joint connecting the left temple arm and the right temple arm to the left rim member and the right rim member, respectively; wherein the nose bridge assembly comprises a left and a right nose bridge component, a channel disposed through the left and right nose bridge components, and an elastic band disposed in the channel and anchored to the frame so as to resist the separation of the left and right nose bridge components.

In other embodiments the frame for eyeglasses further comprise a channel provided in each of the left and right rim members and the left and right temple arms for receiving the elastic band, wherein one end of the elastic band is secured in the channel in the left temple arm and the other end of the elastic band is secured in the channel in the right temple arm; and the elastic band extends through the channel in the left and right temple arms and the left and right rim members to flexibly attach the members together.

In other embodiments, the left and the right nose bridge components comprise a ball member having a ball on a first end thereof and a socket member having a socket on a first end thereof, wherein the ball is disposed in the socket.

In further embodiments the left and the right dislocating joints each comprise: a left and a right socket member attached to the left and the right rim member, respectively; a left and a right hinge member attached to the left and right side temple arms, respectively; wherein the left and the right socket member comprise a socket for receiving the hinge member and a stop member; and wherein the left and the right hinge member each comprise a cylinder having two circular ends and a face extending therebetween, a protrusion on at least one of the circular ends of the cylinder for engaging the indentations in the socket, and a detent for engaging the stop member on the socket member.

In additional embodiments a first end of the channels in each of the left and right temple arms terminates at a point along the length of each temple arm with an opening wherein a retention device is provided to secure the ends of the elastic band at said points.

In additional embodiments the left and right nose bridge components comprise: a hinge member attached to one of the left or right rim members having protrusions on the top and bottom of the hinge member; and a hinge arm member attached to the other of the left or right rim members having a top and a bottom arm with indentations therein for receiving the protrusions on the hinge member; wherein the hinge member is pivotally maintained between the top and bottom arms of the hinge arm member by the engagement of the protrusions into the indentations.

In additional embodiments the left and the right dislocating joints each comprise: an temple hinge member attached to each of the left and right temple arms having protrusions on the top and bottom of the hinge member; an temple hinge arm member attached to each of the left and right rim members, each temple hinge arm member having a top arm and a bottom arm with indentations therein for receiving the protrusions on the temple hinge member; wherein the temple hinge member is pivotally maintained between the top and bottom arms of the temple hinge arm member by the engagement of the protrusions on the temple hinge member into the indentations on the temple hinge arm member.

In other embodiments each temple hinge member further comprises a groove in communication with the channel in the temple arm for receiving and retaining the elastic band.

In an additional embodiment of the eyeglass frame, the frame comprises a left temple arm, a right temple arm, a left rim, a right rim, and an elastic band, wherein the left rim and the right rim are releaseably connected at a bridge; the left temple arm is releaseably connected to the left rim; the right temple arm is releaseably connected to the right rim; and the elastic band is disposed through the releaseable connection at the bridge. Additional embodiments of the frame are described, wherein the releaseable connection at the bridge comprises a ball member attached to one of the left or right rim members and a socket member attached to the other of the left or right rim members.

Further embodiments are described, wherein the releaseable connection between the left and right temple arms and the left and right rims comprise a hinge socket and a stop member disposed in each of the left and right rim members, a detent and a hinge cylinder having a protrusion on one end thereof disposed on each of the left and right temple arms; wherein the hinge socket further comprises an indentation for engaging the protrusion on the hinge cylinder, and wherein the stop member engages the detent.

Other described embodiments are provided wherein the elastic band is disposed in a channel through each of the left and right rim members and attached at opposing ends thereof to the left and right temple arms.

Further described embodiments are provided wherein the releaseable connections at the bridge and between the rims and the temple arms each comprise a middle hinge arm attached to one of the left or right rim members or to one of the left or right temple arms, and a top and bottom hinge arm attached to the left or right rim members; wherein the middle hinge arm further comprises a protrusion on each of a top and a bottom surface of the middle hinge arm; and wherein the top hinge arm further comprises an indentation on a bottom surface thereof; and wherein the bottom hinge arm further comprises an indentation on a top surface thereof; and wherein the protrusions engage the indentations to retain the middle hinge arm between the top and bottom hinge arms.

In another embodiment, the frame comprises a frame for eyeglasses comprising a left temple arm, a right temple arm, a rim member, and a first and a second elastic band, wherein the left temple arm is releaseably connected to the rim mem-

ber; the right temple arm is releaseably connected to the rim member; and the first and second elastic bands are disposed through the releaseable connections between the left and right temple arms and the rim member.

In a further embodiment of the eyeglass frames the releaseable connections between the rim member and the left and right temple arms each comprise a middle hinge arm attached to one of the left or right temple arms, and a top and bottom hinge arm attached to the rim member; wherein the middle hinge arm further comprises a protrusion on each of a top and a bottom surface of the middle hinge arm; and wherein the top hinge arm further comprises an indentation on a bottom surface thereof; and wherein the bottom hinge arm further comprises an indentation on a top surface thereof; and wherein the protrusions engage the indentations to retain the middle hinge arm between the top and bottom hinge arms.

In an additional embodiment each of the first and second elastic bands are disposed in a first and a second channel through opposing ends of the rim member and attached at opposing ends thereof to the left and right temple arms and the rim member.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of an embodiment of the eyeglass frame.

FIG. **2** is a side view of the nose bridge of an embodiment of the eyeglass frame.

FIG. **3** is a perspective view of the nose bridge of an embodiment of the eyeglass frame.

FIG. **4** is an exploded perspective view of the nose bridge of an embodiment of the eyeglass frame in a disassembled configuration.

FIG. **5** is an exploded perspective view of the temple arm joint of an embodiment of the eyeglass frame in a disassembled configuration.

FIG. **6** is a perspective view of the temple arm joint of an embodiment of the eyeglass frame.

FIG. **7** is a partial exploded side view of the temple arm joint of an embodiment of the eyeglass frame in a disassembled configuration.

FIG. **8** is a perspective view of a second embodiment of the eyeglass frame.

FIG. **9** is a perspective view of a third embodiment of the eyeglass frame.

FIG. **10** is a partial perspective view of the third embodiment of the eyeglass frame.

FIG. **11** is a perspective view of a fourth embodiment of the eyeglass frame.

FIG. **12** is a partial perspective view of the fourth embodiment of the eyeglass frame.

FIG. **13** is a partial perspective view of a fourth embodiment of the eyeglass frame.

FIG. **14** is a partial exploded view of the fourth embodiment of the eyeglass frame.

FIG. **15** is a partial exploded view of the fourth embodiment of the eyeglass frame.

DETAILED DESCRIPTION

The eyeglass frames disclosed herein provide eyeglass frames with dislocating joints at the nose bridge and side, or temple, arms of the eyeglass frame. These dislocating joints are an improvement over other eyeglass frames with flexible joints because they provide an improved method of dislocating the temple joint or nose bridge without damaging the eyeglass frame, and allowing it to return to the normal position. This may be utilized to avoid damage to the frames during usage or to allow the user of the frames to detach and store the frame components.

Referring now to FIG. **1**, a perspective view of an embodiment of the eyeglass frames disclosed herein is depicted. The eyeglass frames **100** are provided with a flexible dislocating bridge **102** and flexible dislocating hinges **104** that allow the eyeglass frames **100** to flex, temporarily deform or even dislocate at the joints when placed under stress. Once the stress is removed the eyeglass frames **100** may return to their desired shape under the elastic tension in an elastic band member, as described below.

The eyeglass frames **100** include two rim members **106** and **108** and two temple arms **110**. The rim members are joined at the bridge **102** as depicted in more detail in FIG. **2**. A ball member **112** is attached to one of rim members **106** or **108**. A socket member is attached to the other rim member **106** or **108**. An elastic band **116** is provided through the bridge **102** to maintain the connection between the two rim members.

The bridge **102** does not rotate because the ball and socket are preferably elliptical in cross-section, or a similar shape that resists rotation. Various asymmetrical shapes for the ball and socket may be susceptible for use with the eyeglass frames **100**. This cross-sectional shape prevents the rotation of the ball in the socket and keeps the nose bridge rigid. However, the ball may be pulled out of or popped into the socket by flexion of the socket or compression of the ball under force. When out of the socket the elastic band keeps the two rim members **106** and **108** adjacent to one another.

Referring now to FIGS. **2** and **3**, a side view of the nose bridge of an embodiment of the eyeglass frame and a perspective view of the same, respectively, are depicted. The nose bridge comprises a ball member **112** and a socket member **114**. The ball member **112** is attached at one end thereof to one of rim member **106** or **108**. The other end of ball member **112** is provided with a ball **113** for joining to the socket member **114**. The ball **113** may be spheroid or substantially spheroid in shape. As is more clearly shown in relation to FIG. **4**, the ball **113** in this embodiment is an irregular spheroid in that certain surfaces of the spheroid have been flattened to improve the fit of the ball **113** and socket **115**.

The socket member **114** is attached at one end thereof to one of rim member **106** or **108**. The other end of socket member **114** is provided with a socket **115** for receiving ball **113**. The socket **115** defines an interior volume that is shaped to receive ball **113** and hold it in a specific orientation and to resist bending, rotation or separation of the ball **113** in the socket **115**. The ball and socket are formed from a material that is rigid enough to maintain its shape and resist deformation or dislocation under normal forces encountered when wearing the eyeglass frames.

However, the material must be able to deform sufficiently to allow dislocation of the ball **113** from the socket **115** under the influence of an external force before damage results to either the ball or socket or to the other components of the eyeglass frame. Similarly, the ball **113** and socket **115** must be able to deform sufficiently to allow the user to reconnect the nose bridge by inserting the ball **113** into the socket **115** by application of appropriate force, after which insertion the materials must return to the desired shape to provide the fixed orientation between the two rim members **106** and **108**.

In other embodiments of the eyeglass frame, the ball **113** and socket **115** may be shapes other than spheroid. Any shape of ball and socket is useful in the disclosed eyeglass frame so long as the shape allows the ball **113** to snap into the socket **115** and to be held in the desired orientation, subject to flexing and dislocation from external forces as described above. As

can be seen in FIG. **4**, the ball **113** may be an irregular spheroid in that it may have some flattened surfaces such as surface **400**.

An elastic band **116** is provided in a channel extending through ball **113** and socket **115** and into members **112** and **114**. As can be seen more clearly in FIG. **3**, the members **112** and **114** are provided with a channel **118** for the elastic member **116**. The ends of elastic band **116** may be anchored in members **112** and **114**, or it may extend through members **106** and **108** as depicted in relation to later figures. The elastic band **116** may be slightly stretched when the ball **113** and socket **115** are connected as shown in FIG. **2**. This provides additional force to hold ball **113** in socket **115** during normal wear, without completely preventing the flexing or dislocation of the ball and socket joint. When the ball **113** is dislocated from socket **115**, the elastic band **116** also retains the two pieces adjacent to each other and prevents the eyeglass frame from completely separating into two pieces.

In the embodiment shown in FIG. **2**, the surfaces of ball member **112** and socket member **114** are formed to provide a nose rest to receive the nose of the wearer and support the eyeglass frame thereon. In other embodiments of the eyeglass frame, the members **112** and **114**, or rim members **106** and **108** may be provided with nose pads or other appendages to support the eyeglass frame on the nose of the wearer.

The ball **113** and socket **115** may be formed in a single piece with members **112** and **114**, or may be separate components that are attached to the members **112** and **114** by a known form of attachment for the materials used, such as gluing, welding, screwing, interlocking joints, or other such methods. In some embodiments, the ball and socket members **112** and **114**, and ball **113** and socket **115** may be incorporated into and form a single unitary component with a rim member **106** or **108**. In other embodiments of the eyeglass frame, members **112** and **114** may be of smaller size or not provided at all, in which case ball **113** and socket **114** may be directly attached to rim members **106** and **108**.

Referring now to FIG. **4**, an exploded perspective view of the bridge **102** of an embodiment of the eyeglass frame is depicted. As mentioned before, the ball **113** shown in FIG. **4** is an irregular spheroid in that it has a flattened surface **400** over a portion of the ball **113** resulting in a conical cross-section through a portion of the ball **113**. Other modifications or alternatives to the spheroid ball **113** may be utilized in the disclosed eyeglass frame so long as the ball **113** and socket **115** provide a fixed orientation when subjected to normal forces of wear, but flex and dislocate without damage when subjected to higher than normal forces.

As depicted in FIG. **4**, the ball **113** is connected to the socket **115** by aligning the two components and pressing the ball **113** into socket **115**. Elastic band **116** may be inserted through channel **118** either before or after the ball is inserted into the socket.

Referring now to FIGS. **5**, **6** and **7**, various views of the temple arm, or side arm, joint of an embodiment of the eyeglass frame are depicted. The temple arm joint of the eyeglass frame is also capable of dislocating under external forces before the occurrence of damage to the eyeglass frame. The side arm, or temple arm, **500** is provided with a hinge **502** for engaging the socket member **504**, which is provided with a socket for receiving and retaining the hinge **502**. The socket members **504** are attached to or formed as part of rim members **106** and **108**.

Hinge **502** comprises a hinge cylinder **506** which fits into the socket in member **504** and which contacts the inner wall of said socket to locate the temple arm in relation to socket member **504** and allow it to rotate around hinge **502**. On the top of cylinder **506**, protrusion **508** is provided to engage an indentation **510** in the inner surface of the socket. In the depicted embodiment, the protrusion **508** is hemispherical, though in other embodiments the detent may be conical, frusto-conical, cylindrical or other shapes. The hinge **502** is inserted into the socket in socket member **502** and maintained in the socket by the protrusion **508** engaging indentation **510** and the contact between the cylinder **506** and the inner surface of the socket in socket member **504**. The side arm can be rotated around the hinge **502**.

The hinge **502** also incorporates detent **512** located below the cylinder **506**. The detent **512** extends to the side of the cylinder **506** and may be a partial cylinder with an axis offset from the axis of cylinder **506**, or other suitable shapes. The outer surface of detent **512** contacts stop **514** provided on socket member **504** to prevent rotation past the desired point, but allows the arm to be folded against the rim members **106** and **108** when not in use. Both detent **512** and stop **514** retain the temple arm **500** in the socket during normal use but may flex under external forces to allow the temple arm **500** to dislocate from the socket member **504**.

Socket member **504** is provided with channel **516** for receiving an elastic band shown in FIGS. **1** and **8**. In some embodiments the elastic band runs through the socket in member **504** and connects to the outer surface of temple arm **500** as shown in FIG. **1**. In other embodiments, the elastic band may run from channel **516** into a channel in arm **500** or may otherwise connect to arm **500**. In yet other embodiments the elastic band may run through rim members **106** and **108** to the nose bridge and the other side arm of the eyeglass frame as shown in FIG. **8**. The elastic band provides tension to keep the temple arms in position during normal wear and when dislocated to keep the side arms from separating from the rim members of the eyeglass frame.

Referring now to FIG. **8**, an alternative embodiment of the eyeglass frame is depicted. This embodiment has a single elastic band **800** running over the outer surface of the eyeglass frames, from the temple arm on each side arm **110** through the nose bridge **102** to the other side arm and temple arm.

Referring now to FIGS. **9** and **10**, an alternative embodiment of the eyeglass frame is depicted. The embodiment shown does not include the breakaway nosepiece, but only the breakaway temple arms **900** and **902**. The two temple arms are connected to the rim **904** by hinges **906** and **908**. The hinges **906** and **908** allow the temple arms **900** and **902** to break away from the rim member **904** under increased bending stresses. Temple arms **902** and **900** are retained in hinges **906** and **908** by elastic cords not shown in FIG. **9**. Temple arm hinges **906** and **908** are as described in relation the temple arm hinges depicted in FIGS. **13** and **14**.

Each elastic cord is disposed in a channel that runs inside the respective temple arm. One terminus **910** of the channel can be seen exiting the temple arm on the inside surface thereof. In other embodiments, the channel may exit the temple arm on a different surface of the temple arm, either upper, lower or outside surfaces. The terminus **910** of the channel may be provided with a pocket for receiving a retaining means for the end of the elastic cord. The retaining means may comprise a knot in the elastic cord, a clip or ring secured to the elastic cord, or some other means of securing a fixed point on the elastic cord at the terminus **910** of the channel. This allows the elastic cord to be stretched to provide tension to hold the hinges **906** and **908** in position during normal use, but still providing flexibility to the hinges when they are placed under abnormal forces.

Continuing to refer to FIGS. **9** and **10**, a detailed perspective view of the area of hinges **906** and **908** in the embodiment

shown in FIG. **9** is depicted. A second terminus **1000** exits from temple arms **900** and **902** near each hinge **906** and **908**. The elastic cord extends out of the terminus and across the outer surface of the hinge **906** or **908**. The temple arms **900** and **902** may be provided with a groove **1002** adjacent to terminus **1000** for receiving the elastic cord and maintaining the cord in the appropriate position. The rim member **904** is provided with channels **1004** for receiving the elastic cords. The elastic cords are directed from groove **1002** into channels **1004** and retained on the opposite side of rim member **904**. The elastic cord may be retained by a knot in the cord, a retaining clip or other similar means of retaining elastic cords known in the art. As described above, the elastic cords are retained at each end in a stretched position to hold the temple arms in an opened position under tension.

Referring now to FIG. **11**, a perspective view of a fourth alternative embodiment of the eyeglass frame is depicted. The depicted embodiment includes the dislocating nose bridge. This embodiment comprises temple arms **1100** and **1102**, and right and left rim members, **1104** and **1106** respectively. The temple arms are attached to the rim members at hinges **1108** and **1110**. A hinge **1112** in the nose bridge of the eyeglass frame allows the bridge area to flex or dislocate without permanent damage to the eyeglass frame. The temple arms **1100** and **1102** are provided with internal channels for receiving elastic cords, which channels have an opening on the inner surface of the temple arms at terminus **1114** and **1116** (not visible in FIG. **11**). The channels also have an opening on the exterior surface of the temple arms at **1118** (not visible in FIG. **11**) and **1120**. In the depicted embodiment grooves **1122** (not visible in FIG. **11**) and **1124** are provided in each temple arm to guide the elastic cord to the openings **1126** and **1128** in the rim members **1104** and **1106**, respectively.

Referring now to FIG. **12**, a detailed perspective view of hinge **1110** in the embodiment shown in FIG. **11** is depicted. The path of the elastic cord, or bungee cord, is depicted, exiting from terminus **1120** and following groove **1124** before entering the channel in rim member **1106** through opening **1128**.

Referring now to FIG. **13**, an exploded view of the embodiment depicted in FIGS. **11** and **12** is depicted. The embodiment depicted in FIG. **13** has decorative differences in the temple arms **1100** and **1102** but functionally is the same as the depictions in FIGS. **11** and **12**. Temple arms **1100** and **1102** are shown detached from rim members **1104** and **1106**, and the two rim members **1104** and **1106** are detached at the nose bridge hinge **1112**.

Referring now to FIG. **14**, an exploded detail perspective view of hinge **1110** is depicted for the embodiment shown in FIG. **13**. The embodiment of the hinge **1110** shown in FIG. **14** comprises a pivot hinge, with a hinge body **1400**, protrusions **1402** disposed on the axis of rotation of the hinge, hinge arms **1404** and indentations **1406**. When hinge **110** is attached, protrusions **1402** engage indentations **1406** and allow the hinge to rotate around its axis. The hinge is designed so that the temple arm **1102** may be popped into and out of the rim member **1106** if the hinge **1110** experiences abnormal forces. The hinge arms **1404** may be provided with a stop **1408** to engage the temple arm **1102**. The stop **1408** contacts the end of temple arm **1102** and prevents the tension in the elastic cord from rotating the temple arm **1102** away from the head of the user.

Referring now to FIG. **15**, an exploded detail perspective view of hinge **1112** in the embodiment depicted in FIG. **14** is depicted. The rim member **1104** is provided with hinge body **1500**. Hinge arms **1504** are provided on rim member **1106** to receive the hinge body **1500**. On the top and bottom surface of hinge body **1500**, protrusions **1502** are provided to engage indentations **1506** that are provided on the inside surfaces of hinge arms **1504**. The indentation in the upper hinge arm **1504** is not visible in FIG. **15**. Rim members **1104** and **1106** are provided with channels running through the upper portion thereof, above the location of the eyeglass lens. The channels exit the two rim members at openings **1508**. The channels extend through the rim members and exit at openings **1128** near hinges **1110** and **1108**. The elastic cord extends from the retention points at **1114** on each temple arm, through hinges **1108** and **1110** and through hinge **1112** at the nose bridge. The elastic cord provides tension through all the hinges to secure them in the appropriate configuration for a user to wear the glasses, but allow the hinges to flex or dislocate before breaking if abnormal forces are encountered.

Many different arrangements of the various components depicted, as well as components not shown, are possible without departing from the spirit and scope of the present invention. Embodiments of the present invention have been described with the intent to be illustrative rather than restrictive. Alternative embodiments will become apparent to those skilled in the art that do not depart from its scope. A skilled artisan may develop alternative means of implementing the aforementioned improvements without departing from the scope of the present invention.

It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations and are contemplated within the scope of the claims. Not all steps listed in the various figures need be carried out in the specific order described.

What is claimed is:

1. A frame for eyeglasses comprising:

a left rim member and a right rim member;

a nose bridge assembly connecting the left rim member to the right rim member;

a left temple arm and a right temple arm;

a left and a right dislocating joint connecting the left temple arm and the right temple arm to the left rim member and the right rim member, respectively;

wherein the nose bridge assembly comprises a left and a right nose bridge component, a channel disposed through the left and right nose bridge components, and an elastic band disposed in the channel and anchored to the frame so as to resist the separation of the left and right nose bridge components;

and wherein a channel is provided in each of the left and right rim members and the left and right temple arms for receiving the elastic band wherein one end of the elastic band is secured in the channel in the left temple arm and the other end of the elastic band is secured in the channel in the right temple arm; and the elastic band extends through the channel in the left and right temple arms and the left and right rim members to flexibly attach the members together;

and wherein the left and the right nose bridge components comprise a ball member having a ball on a first end thereof and a socket member having a socket on a first end thereof, wherein the ball is disposed in the socket.

2. The frame of claim **1** wherein the left and the right dislocating joints each comprise:

a left and a right socket member attached to the left and the right rim member, respectively;

a left and a right hinge member attached to the left and right side temple arms, respectively;

wherein the left and the right socket member comprise a socket for receiving the hinge member and a stop member; and

wherein the left and the right hinge member each comprise a cylinder having two circular ends and a face extending therebetween, a protrusion on at least one of the circular ends of the cylinder for engaging the indentations in the socket, and a detent for engaging the stop member on the socket member.

3. The frame of claim **2** wherein a first end of the channels in each of the left and right temple arms terminates at a point along the length of each temple arm with an opening wherein a retention device is provided to secure the ends of the elastic band at said points.

4. A frame for eyeglasses comprising:

a left rim member and a right rim member;

a nose bridge assembly connecting the left rim member to the right rim member;

a left temple arm and a right temple arm;

a left and a right dislocating joint connecting the left temple arm and the right temple arm to the left rim member and the right rim member, respectively;

wherein the nose bridge assembly comprises a left and a right nose bridge component, a channel disposed through the left and right nose bridge components, and an elastic band disposed in the channel and anchored to the frame so as to resist the separation of the left and right nose bridge components;

and wherein a channel is provided in each of the left and right rim members and the left and right temple arms for receiving the elastic band, wherein one end of the elastic band is secured in the channel in the left temple arm and the other end of the elastic band is secured in the channel in the right temple arm; and the elastic band extends through the channel in the left and right temple arms and the left and right rim members to flexibly attach the members together;

and wherein the left and right nose bridge components comprise:

a hinge member attached to one of the left or right rim members having protrusions on the top and bottom of the hinge member; and

a hinge arm member attached to the other of the left or right rim members having a top and a bottom arm with indentations therein for receiving the protrusions on the hinge member;

wherein the hinge member is pivotally maintained between the top and bottom arms of the hinge arm member by the engagement of the protrusions into the indentations.

5. The frame of claim **4** wherein the left and the right dislocating joints each comprise:

an temple hinge member attached to each of the left and right temple arms having protrusions on the top and bottom of the hinge member;

an temple hinge arm member attached to each of the left and right rim members, each temple hinge arm member having a top arm and a bottom arm with indentations therein for receiving the protrusions on the temple hinge member;

wherein the temple hinge member is pivotally maintained between the top and bottom arms of the temple hinge arm member by the engagement of the protrusions on the temple hinge member into the indentations on the temple hinge arm member.

6. The frame of claim **5** wherein each temple hinge member further comprises a groove in communication with the channel in the temple arm for receiving and retaining the elastic band.

7. A frame for eyeglasses comprising a left temple arm, a right temple arm, a left rim, a right rim, and an elastic band, wherein the left rim and the right rim are releaseably connected at a bridge; the left temple arm is releaseably connected to the left rim; the right temple arm is releaseably connected to the right rim; and the elastic band is disposed through the releaseable connection at the bridge.

8. The frame of claim **7** wherein the releaseable connection at the bridge comprises a ball member attached to one of the left or right rim members and a socket member attached to the other of the left or right rim members.

9. The frame of claim **8** wherein the releaseable connection between the left and right temple arms and the left and right rims comprise a hinge socket and a stop member disposed in each of the left and right rim members, a detent and a hinge cylinder having a protrusion on one end thereof disposed on each of the left and right temple arms; wherein the hinge socket further comprises an indentation for engaging the protrusion on the hinge cylinder, and wherein the stop member engages the detent.

10. The frame of claim **9** wherein the elastic band is disposed in a channel through each of the left and right rim members and attached at opposing ends thereof to the left and right temple arms.

11. The frame of claim **7** wherein the releaseable connections at the bridge and between the rims and the temple arms each comprise a middle hinge arm attached to one of the left or right rim members or to one of the left or right temple arms, and a top and bottom hinge arm attached to the left or right rim members; wherein the middle hinge arm further comprises a protrusion on each of a top and a bottom surface of the middle hinge arm; and wherein the top hinge arm further comprises an indentation on a bottom surface thereof; and wherein the bottom hinge arm further comprises an indentation on a top surface thereof; and wherein the protrusions engage the indentations to retain the middle hinge arm between the top and bottom hinge arms.

12. A frame for eyeglasses comprising a left temple arm, a right temple arm, a rim member, and a first and a second elastic band, wherein the left temple arm is releaseably connected to the rim member; the right temple arm is releaseably connected to the rim member; and the first and second elastic bands are disposed through the releaseable connections between the left and right temple arms and the rim member;

and wherein the releaseable connections between the rim member and the left and right temple arms each comprise a middle hinge arm attached to one of the left or right temple arms, and a top and bottom hinge arm attached to the rim member; wherein the middle hinge arm further comprises a protrusion on each of a top and a bottom surface of the middle hinge arm; and wherein the top hinge arm further comprises an indentation on a bottom surface thereof; and wherein the bottom hinge arm further comprises an indentation on a top surface thereof; and wherein the protrusions engage the indentations to retain the middle hinge arm between the top and bottom hinge arms.

13. The frame of claim **12** wherein each of the first and second elastic bands are disposed in a first and a second channel through opposing ends of the rim member and attached at opposing ends thereof to the left and right temple arms and the rim member.

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